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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,101	08/10/2006	Yvon Gourhant	127905	4688
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EXAMINER				
BAIG, ADNAN				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/578,101

**Applicant(s)**

GOURHANT ET AL.

**Examiner**

ADNAN BAIG

**Art Unit**

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy (US 6,754,192) in view of Haugli (US 2004/0125776), and further in view of Goddard (US 2002/0083117).

Regarding Claim 1, Kennedy discloses a method of notifying changes of state (**see Col. 2 lines 58-67 & Col. 3 lines 1-10**) in the resources of a network (**see Fig. 1, ad hoc network 10**) to at least one node of the network and adapted to execute on the network, the method comprising the following steps:

(Referring to Fig. 1, Kennedy illustrates changes of state within a network where a plurality of nodes or applications within a network, are capable of failure and lack availability at different times, **see Col. 2 lines (58-67)**. A process switch message is

communicated to the nodes, which serves as notification for the changes in the network, **see Col. 3 Lines 1-10,**

Kennedy discloses collecting routing information from a transport or network layer through updated routing tables, **(see Col. 5 Lines 1-35, i.e., proactive routing (OSLR)).**

Kennedy further explains each set of nodes in the system is initially (previously) registered with its communicating node or sub-set, **(see Col. 6 Line 60 - Col.7 line 1).**

Kennedy teaches new applications are important in mobile ad hoc networks and a serious challenge is faced when nodes in a network must self organize due to a lack of a fixed infrastructure and information becomes obsolete due to changes in the network topology occurs, **see Col. 1 lines 35-65.** Kennedy suggests a routing protocol needs to adapt to frequent topology changes, **see Col. 1 lines 65-66)**

Kennedy does not disclose notifying changes of state to at least one application of an application layer, extracting routing information using the change-of-state notification means with which the application has previously been registered, and forwarding said routing information extracted by the notification means to the application.

Haugli shows routing information is extracted from incoming (notification) messages and forwarded or relayed to the destination terminal, (**see Para [0009] Lines 19-34**)

(Referring to Fig. 2, Haugli illustrates forwarding routing information from node 10-1 to node 10-7, **see Para [0045]**).

Goddard discloses a network where layer seven switching (**i.e., application layer routing**) is performed at an access point (**Fig. 1, 102**), to process client request (**Fig. 1, 108,110**) based on quality of service, (**see Fig. 1, Item 106, Para & [0017] & [0006-0008]**)).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to extract routing information using notification means and forward said routing information extracted by the notification means to a terminal as taught by Haugli, by implementing a method of notifying changes of state in the resources of a network to at least one node adapted to execute on the network by collecting routing information from a transport or network layer, using the change of state notification means with which the node has previously been registered as taught by Kennedy, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to notify changes of state in the resources of a network to at least one

application of an application layer, and forward routing information to the application by using the teachings of the combination of Kennedy in view of Haugli, within the teachings of Goddard, who includes a layer 7 (i.e., application layer routing) switch as an access point which forwards client information, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

Regarding Claim 2, the combination of Kennedy in view of Haugli, and further in view of Goddard disclose a change of state notification method according to claim 1, wherein, during the prior registration step, by which the application was registered with the change-of-state notification means (**see Kennedy, see Col. 6 Line 60 - Col.7 line 1**), a fraction of nodes and/or of links of the network is selected so that the information that is extracted and forwarded to said application is routing information relating to said selected fraction of the nodes and/or of the links, (**See Kennedy Col. 3 Lines 5-10 & Col. 5 Lines 35-47**)

Regarding Claim 3, the combination of Kennedy in view of Haugli, and further in view of Goddard disclose a change of state notification method according to claim 1, wherein the network is an ad-hoc network (**see Fig. 1**), and the routing information is extracted by interrogating a routing protocol implemented in the ad-hoc network, (**Kennedy further teaches an ad-hoc network see Col. 2 Lines 35-40. Kennedy further teaches a reactive routing protocol which interrogates routing information from updated route tables when necessary, see Col. 5 Lines 1-10**).

Regarding Claim 4, the combination of Kennedy in view of Haugli, and further in view of Goddard disclose a change of state notification method according to claim 3, wherein the routing information is extracted from routing tables exchanged by a proactive routing protocol of the ad-hoc network, in particular the OLSR protocol, **(Kennedy further teaches a proactive OLSR routing protocol is implemented by providing route information from routing tables, see Col. 6 Lines 60-67).**

Regarding Claim 5, the combination of Kennedy in view of Haugli, and further in view of Goddard disclose a change of state notification method according to claim 1, further including a step of dynamically extending the notification means during which new extraction rules are introduced into the notification means corresponding to new routing information that has been deployed on the network, **(Kennedy further teaches new routing information in the network where a proactive protocol is switched to a reactive protocol, and a new route information is determined, Col. 9 see Lines 38-45).**

Regarding Claim 6, Kennedy discloses a computer readable recording medium storing a computer program for performing a change of state notification method **(see Col. 2 lines 58-67 & Col. 3 lines 1-10)**, the method executed by a computer **(see Col. 3 lines 63 - Col. 4 lines 1-35)**, wherein the program includes for a node that has previously been registered **(see Col. 6 Line 60 - Col.7 line 1)** with the program, instructions

causing the computer to operate as means for collecting routing information from a transport or network layer of the network

(Referring to Fig. 1, Kennedy illustrates changes of state within a network where a plurality of nodes or applications within a network, are capable of failure and lack availability at different times, **see Col. 2 lines (58-67)**. A process switch message is communicated to the nodes, which serves as notification for the changes in the network, **see Col. 3 Lines 1-10**),

Kennedy discloses means for collecting routing information from a transport or network layer through updated routing tables, (**see Col. 5 Lines 1-35, i.e., proactive routing (OSLR)**).

Kennedy further explains each set of nodes or applications in the system is initially (previously) registered with its communicating node or sub-set, (**see Col. 6 Line 60 - Col. 7 line 1**).

Kennedy teaches new applications are important in mobile ad hoc networks and a serious challenge is faced when nodes in a network must self organize due to a lack of a fixed infrastructure and information becomes obsolete due to changes in the network topology occurs, **see Col. 1 lines 35-65**. Kennedy suggests a routing protocol needs to adapt to frequent topology changes, **see Col. 1 lines 65-66**)



Kennedy does not disclose an application in the program, means for extracting routing information, and means for forwarding the extracted routing information to the application.

Haugli shows routing information is extracted from incoming (notification) messages and forwarded or relayed to the destination terminal, (**see Para [0009] Lines 19-34**)

(Referring to Fig. 2, Haugli illustrates forwarding routing information from node 10-1 to node 10-7, **see Para [0045]**).

Goddard discloses a network where layer seven switching (**i.e., application layer routing**) is performed at an access point (**Fig. 1, 102**), to process client request (**Fig. 1, 108,110**) based on quality of service, (**see Fig. 1, Item 106, Para & [0017] & [0006-0008]**)).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have means for extracting routing information and means for forwarding the extracted information as taught by Haugli, by implementing a change of state notification method executed by a computer, wherein the program includes for a node that has previously been registered with the program, instructions causing the computer to operate as means for collecting routing information from a transport or network layer

of the network as taught by Kennedy, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to notify changes of state in the resources of a network to at least one application of an application layer, and means for forward the extracted information to the application by using the teachings of the combination of Kennedy in view of Haugli, within the teachings of Goddard, who includes a layer 7 (i.e., application layer routing) switch as an access point which forwards client information, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

Regarding Claim 7, Kennedy discloses a system for notifying changes of state (**see Col. 2 lines 58-67 & Col. 3 lines 1-10**) in the resources of a network (**see Fig. 1, ad hoc network 10**), the system comprising the network and at least one node (**see Fig. 1, source node**) adapted to execute on the network, and including a computer program installed on at least one-node of the network (**see Col. 3 lines 63 - Col. 4 lines 1-35**), the program including, for a node that has previously been registered (**see Col. 6 Line 60 - Col. 7 line 1**) with the program, instructions for causing the node to operate as means for collecting routing information from a transport or network layer of the network

(Referring to Fig. 1, Kennedy illustrates changes of state within a network where a plurality of nodes or applications within a network, are capable of failure and lack

availability at different times, **see Col. 2 lines (58-67)**. A process switch message is communicated to the nodes, which serves as notification for the changes in the network, **see Col. 3 Lines 1-10**),

Kennedy discloses means for collecting routing information from a transport or network layer through updated routing tables, (**see Col. 5 Lines 1-35, i.e., proactive routing (OSLR)**).

Kennedy further explains each set of nodes or applications in the system is initially (previously) registered with its communicating node or sub-set, (**see Col. 6 Line 60 - Col. 7 line 1**).

Kennedy teaches new applications are important in mobile ad hoc networks and a serious challenge is faced when nodes in a network must self organize due to a lack of a fixed infrastructure and information becomes obsolete due to changes in the network topology occurs, **see Col. 1 lines 35-65**. Kennedy suggests a routing protocol needs to adapt to frequent topology changes, **see Col. 1 lines 65-66**)

Kennedy does not disclose an application in the program, means for extracting routing information, and means for forwarding the extracted routing information to the application.

Haugli shows routing information is extracted from incoming (notification) messages and forwarded or relayed to the destination terminal, (**see Para [0009] Lines 19-34**)

(Referring to Fig. 2, Haugli illustrates forwarding routing information from node 10-1 to node 10-7, **see Para [0045]**).

Goddard discloses a network where layer seven switching (**i.e., application layer routing**) is performed at an access point (**Fig. 1, 102**), to process client request (**Fig. 1, 108,110**) based on quality of service, (**see Fig. 1, Item 106, Para & [0017] & [0006-0008]**)).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have means for extracting routing information and means for forwarding the extracted information as taught by Haugli, by implementing a system for notifying changes of state in the resources of a network, the system comprising the network and at least one node adapted to execute on the network, including a computer program installed on at least one node of the network, wherein the program includes for a node that has previously been registered with the program, instructions causing the node to operate as means for collecting routing information from a transport or network layer of the network as taught by Kennedy, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to notify changes of state in the resources of a network comprising at least one application adapted to execute on the network, and means for forward the extraceted information to the application by using the teachings of the combination of Kennedy in view of Haugli, within the teachings of Goddard, who includes a layer 7 (i.e., application layer routing) switch as an access point which forwards client information, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

Regarding Claim 8, Kennedy discloses a node of a network (**see Fig. 1, source node**), comprising routing applications (**see col. 2 lines 35-40**), the node storing a computer program including (**see Col. 3 lines 63 - Col. 4 lines 1-35**), for a node that has previously been registered with the program (**see Col. 6 Line 60 - Col. 7 line 1**), instructions for causing the node to operate as means for collecting routing information from a transport or network layer of the network

(Referring to Fig. 1, Kennedy illustrates changes of state within a network where a plurality of nodes or applications within a network, are capable of failure and lack availability at different times, **see Col. 2 lines (58-67)**. A process switch message is communicated to the nodes, which serves as notification for the changes in the network, **see Col. 3 Lines 1-10**),

Kennedy discloses means for collecting routing information from a transport or network layer through updated routing tables, **(see Col. 5 Lines 1-35, i.e., proactive routing (OSLR))**.

Kennedy further explains each set of nodes or applications in the system is initially (previously) registered with its communicating node or sub-set, **(see Col. 6 Line 60 - Col. 7 line 1)**.

Kennedy teaches new applications are important in mobile ad hoc networks and a serious challenge is faced when nodes in a network must self organize due to a lack of a fixed infrastructure and information becomes obsolete due to changes in the network topology occurs, **see Col. 1 lines 35-65**. Kennedy suggests a routing protocol needs to adapt to frequent topology changes, **see Col. 1 lines 65-66**)

Kennedy does not disclose an application in the program, means for extracting routing information, and means for forwarding the extracted information to the application.

Haugli shows routing information is extracted from incoming (notification) messages and forwarded or relayed to the destination terminal, **(see Para [0009] Lines 19-34)**

(Referring to Fig. 2, Haugli illustrates forwarding routing information from node 10-1 to node 10-7, **see Para [0045]**).

Goddard discloses a network where layer seven switching (i.e., **application layer routing**) is performed at an access point (**Fig. 1, 102**), to process client request (**Fig. 1, 108,110**) based on quality of service, (**see Fig. 1, Item 106, Para & [0017] & [0006-0008]**)).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have means for extracting routing information and means for forwarding the extracted information as taught by Haugli, by implementing a node of a network comprising routing applications, the node storing a computer program including for a node that has previously been registered with the program, instructions for causing the node to operate as means for collecting routing information from a transport or network layer of the network as taught by Kennedy, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to store a computer program in a node of a network including an application, and forward routing information to the application by using the teachings of the combination of Kennedy in view of Haugli, within the teachings of Goddard, who includes a layer 7 (i.e., application layer routing) switch as an access point which forwards client information, because the teaching lies in Kennedy to adapt to frequent topology changes in a mobile ad hoc network.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

/ADNAN BAIG/

Examiner, Art Unit 2416

/Huy D Vu/

Supervisory Patent Examiner, Art Unit 2416